

Appendix B

Summary of EA Comments and BLM Responses

The EA was released for a 30-day public review period on December 23, 2003. A total of seven comment letters were received. The letters have been reviewed to determine whether the information they provided would warrant a determination other than a Finding of No Significant Impact (FONSI). Substantive comments are summarized below, followed by the BLM's responses to the comments in italics. The RFO would like to thank all who commented for taking the time to review the EA and provide comments.

1. Office of State Lands and Investments

This office has no significant concerns regarding the proposed action at this time. Our review of the captioned EA discloses that the proposed action will enhance the desired study of well performance in the Atlantic Rim Project. If the BLM pursues the proposed action, the drilling will allow testing of state resources as well as federal, and the combination, if producing, will convey additional revenues to the State of Wyoming.

Thank you for your comment.

2. The State of Wyoming Department of Environmental Quality

There are three Water Quality Divisions permits that may apply to the project.

This information is appreciated. BLM Regulation at 43 CFR Part 3164.1 Onshore Oil and Gas Order No. 1; Approval of Operation's on Onshore Federal and Indian Oil and Gas Leases; section I., Accountability, states in part, "Lessees and operators have the responsibility to see that their exploration, development, production, and construction operations...conforms with applicable federal laws and regulations and with State and local laws and regulations...." The Master Surface Use Plan, Appendix B, of the EA on page 6, states, "All the Companies' operations and those of its contractors will be conducted in accordance with all the BLM and WOGCC rules and regulations."

3. The State of Wyoming Game and Fish Department

Separation Creek flows through the project area but does not contain a fishery. However, within this arid region the riparian habitat along this stream does provide valuable habitat for terrestrial animals and possibly amphibians. Impacts to habitat should be minimized, and any necessary reclamation should include native vegetative species.

It is BLM's goal to keep disturbance to a minimum. BLM's reclamation policy requires the use of native species.

4. Petroleum Association of Wyoming

- a. The applicants have agreed to numerous "Applicant Committed Measures", which go beyond the required protective measures established in the current land management plan...The Applicants have demonstrated their willingness to work with the BLM in protecting the effects on the environment and as a result, PAW believes that the proposed project has provided sufficient mitigation to protect the environment.**

We agree that the Companies have shown their willingness in working with the BLM to protect the environment. The Project Wide Mitigation Measures and Procedures, found in Chapter 2, along with the Conditions of Approval that are added to the Decision Record provided sufficient mitigation to protect the environment.

- b. The “Applicant Committed Measures” are voluntary actions agreed to by the individual companies and should not establish the precedent for future projects that are similar in nature.**

The measures identified under Section 2.1.10, Project Wide Mitigation Measures and Procedures, and referred to as Best Management Practices through out the EA, are actions or features which are included as part of the proposed action that would be taken to avoid or reduce project impacts or reflect standards operating procedures. Once the measures, as described in Chapter 2, become part of the decision, they are considered enforceable actions that will be implemented, if applicable, to reduce impacts to the environment resulting from the project. Regardless if these measures are proposed by the BLM or the applicant, they will be applied if necessary.

- c. Page 2-15, Preconstruction Planning, Design, and Compliance Measures, #1: “The Companies would designate a qualified Representative to serve as compliance coordinator.” The BLM must recognize that individual contact persons may be required when site-specific operations occur that affect only one company’s operation.**

This comment is appreciated.

- d. Page 2-18, Water Resources: As development continues in the Atlantic Rim area the BLM must continue to remain flexible regarding other disposal methods such as surface discharge into off-channel reservoirs for beneficial use or re-injection of produced water into deep aquifers.**

Refer to Appendix A of the EA, INTERIM DRILLING POLICY, page A-3. This explains BLM policy for water disposal while the Atlantic Rim Coalbed Natural gas project is being written.

- e. Page 2-22, Vegetation, Wetlands, and Noxious Weeds, #1: PAW believes that consultation between the operator, BLM, and County Weed and pest agencies should be encourages to identify noxious weed outbreaks. Once identified, the appropriate control measures should be implemented.**

This comment is appreciated, the process discribed is basicly the process the BLM uses.

- f. Page 2-24, Cultural Resources, #3: Adverse effects to cultural or historical properties that cannot be avoided would be mitigated by preparing and implementing a cultural resources mitigation plan.**

Mitigation plans are only required on those cultural or historical sites that cannot be avoided. As explained on page 2-24, Cultural Resources, #2, “Avoidance is the preferred method for mitigating adverse effects to a property that is considered eligible for the NRHP.” A mitigation plan is only required if an eligible site can not be avoided.

- g. **Page 2-24, Transportation, #2: Roads that are not required for routine operation and maintenance of producing wells and ancillary facilities or field production would be permanently blocked, reclaimed, and revegetated.” Operators have no authority over roads that they do not construct. Only those roads constructed pertinent to this project should be subject to this mitigation measure. The BLM should consult the County before blocking and reclaiming roads.**

We have a process for closing roads on public land. This process includes coordination with land owners, other users, and other government agencies. As stated on page 20 of the Master Use Plan (Appendix B, "roads, culverts, cattle guards, pipelines, stock water facilities, or other structures could be left in place at the end of the project for any beneficial use...." The BLM does not have the unilateral authority to close County roads.

- h. **Page 2-24, Socioeconomics: PAW recognizes that the social and economic opportunities generated from the project would continue to benefit the residents of Wyoming and the participating counties by directly creating new jobs and producing additional revenues. Socio-economics are an important component to this cumulative analysis and were appropriately incorporated into the EA.**

This comment is appreciated.

- i. **Page 2-27, Noise, #3: “In addition to other restrictions on activities near leks, the BLM may require that noise levels be limited to no more than 10 decibels on the A-weighted (dBA) above background levels....” There is an ongoing effort with the BLM and Wyoming Game and Fish to monitor the possible effects noise may have on the species during seasonal times of the year. PAW recommends that the BLM insert language into the EA that recognizes the agency should remain flexible with noise mitigation while those studies are being conducted and the mitigation may be adjusted based on the results from those studies.**

Research on noise levels affecting greater sage-grouse is presently ongoing. The 10 dBA standard was established as mitigation in the Pinedale Anticline EIS. The analysis presented in the noise technical analysis report, prepared for the EIS, indicated that an oil and gas rig would have to be located a minimum of 800 feet away from a greater sage-grouse lek and a typically-sized (26,000 horsepower) compressor station would have to be located approximately 2,500 feet away from the lek, unless mitigation is applied.

We are currently trying to obtain the latest research information available on this subject, but until further studies are complete, we will use the results from the studies conducted for the Pinedale EIS as a guide and will mitigate noise levels of authorized actions to increases to no more than 10 dBA above background levels at the edge of sage-grouse leks. Furthermore, the requirement that no construction activities would occur within 0.25 miles of a greater sage-grouse lek, would help to reduce noise levels resulting from gas development at lek locations.

- j. **The BLM must recognize that requirements on private surface need to be subject to the private landowners unless mandated by federal law. While the BLM has the mandate under NEPA to analyze for impacts regardless of land ownership, it does not give the BLM the authority to manage private property. Outside of the Endangered Species Act or any other laws, the BLM must manage the surface resources at the discretion of the landowner. This needs to be consistently reflected in the document.**

The BLM has long recognized the rights of the land owner and requires the input of the land owner whenever private lands are involved in a federal action. Table 2-1 on page 2-3 lists which wells and facilities are on private and which are on public land. The last sentence on page 2-4 states, "Although the entire project is described in the pod, the proposed federal action is limited to the anticipated activities that would require a decision or authorization from the BLM to proceed."

- k. **In a time of uncertainty and with the projection of natural gas production being unable to meet demand during certain times of the year, Wyoming has the opportunity to provide much needed natural resources to markets throughout the nation and this proposal has the potential to assist in that effort. At the same time, industry recognizes the importance of protecting the environment and will work to adequately address those concerns during the appropriate level of NEPA analysis.**

This comment is appreciated.

5. U.S. Fish & Wildlife Service

- a. **The Service understands that the Bureau will prepare a separate EA for each pod proposed under the Atlantic Rim Coal Bed Natural Gas Project to collect information for use in preparing an EIS. The Service believes that, in order to fully analyze cumulative effects pursuant to NEPA, the effects of full field development of the Atlantic Rim Coal Bed Natural Gas Project should be analyzed under one document rather than through individual EAs that tier to the Interim Drilling Policy.**

The Red Rim Pod, along with other Pods associated with the Atlantic Rim project, is intended to provide exploratory information in support of development of the Atlantic Rim Environmental Impact Statement. The Atlantic Rim Pods have been proposed in order to develop information on the impacts of various actions that are envisioned occurring and to obtain baseline information on geologic and biologic conditions. There is no library where this information may be "checked out"; it must be obtained by exploration in the field. In addition, the productivity of the coal formations targeted in producing natural gas is a critical piece of information. Experience has shown that there are a certain minimum number of wells necessary to successfully obtain such information. The Red Rim Pod is proposed for just such reasons. All the elements of a coal bed methane operation must be in place (production wells, plumbing, disposal wells, roads, gas lines and compressor stations) in order to adequately develop this information. The Atlantic Rim EIS, concurrently in the process of development with the Atlantic Rim Pods, will provide the broad level of analysis you have requested, including cumulative effects within and around the Atlantic Rim area. An example of the utility of this process is the recent revision of the proposed action from 3,880 wells to 2,000 wells, based on the results obtained from exploratory drilling.

- b. **Page I-I, Description and Location: Page I-I of the EA describes the production of eight exploratory wells and two injection wells and the testing of eight existing wells. However, page 2-1 states that the proposed action consists of nine exploratory wells and two injections wells and the testing of seven existing wells. Please clarify how many new wells are included in the Red Rim Pod as well as any past and present actions that should be included in a cumulative effects analysis pursuant to 40 CFR § 1508.7.**

Page 2-1, third paragraph, the first sentence has been changed to read, "The Proposed Action consists of constructing, drilling, completing, testing, and operating eight exploratory gas wells and up to two water injection wells; testing and operating eight existing exploratory wells; and constructing and operating two water conditioning facilities, three surface discharge outfalls, and a compressor station."

- c. **Page 2-8, Power Generation: The Red Rim compressor station is within two miles of three sage grouse leks. We are concerned that noise from the engines may influence nearby lek activity especially if the topography between the compressor station and the leks is flat. The Service recommends relocating the compressor station so that it is outside of the two-mile buffer. In the event that the compressor can not be moved, we recommend that noise be minimized by the use of muffling systems. If topographic features such as hills are present and serve to greatly reduce noise influence to adjacent leks please clarify this.**

In Section 2.1.10 Project-Wide Mitigation Measures and Procedures of the RRPEA, the "Companies" agree to use and comply with measures and procedures to avoid or mitigate potential impacts to resources. These measures and procedures are referred to as Best Management Practices. As found under Noise on page 2-26, the Companies would muffle and maintain all motorized equipment according to Best Management Practices. And in addition to other restrictions on activities near leks, the BLM will require that noise levels be limited to no more than 10 decibels on the A-weighted scale (dBA) above background levels for greater sage-grouse leks that are located on public lands. This scale simulates human hearing by placing less emphasis on lower frequency noise. The BLM will require that compressor engines located on public lands be enclosed in a building and located at least 600 feet away from sensitive receptors or sensitive resource areas to comply with these limits on noise levels.

The Great Divide Resource Management Plan (RMP), in Appendix I, lists sage grouse in several areas of the Wildlife Mitigation Guidelines, including 2b and 2c. Item 2c provides for the prohibition of surface activities or use within important habitat areas for the purpose of protecting sage grouse breeding grounds and or habitat where timing stipulations are not appropriate. The purpose of the Guidelines are 1) to reserve for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and 2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. The Guidelines in the RMP are not specific as to the distance an action must be moved to mitigate impacts of a proposal on sage grouse. Literature reviews indicate that spacing requirements from a lek generally run in the 0.25 to 2 mile range; 0.25 miles is a minimum distance for spacing.

- d. **Page 2-22, Wildlife, Item #1: The EA states that the Companies will establish a variety of forage species that would return the land to a condition that approximates or is equal to its state before disturbance. We recommend that native species be used during reclamation and that sage brush habitat be reclaimed as well to a condition that is equal to or better than its state prior to disturbance.**

Page 20 of the Master Surface Use Program (appendix B); table B-3 gives the seed mixed that will be used for reclamation. All species listed are native species. The linear nature of the disturbance from road and pipeline disturbance and the small size of the disturbance from pad construction allow sage brush to come back naturally once the grasses and forb, that were seeded, have created the needed microclimate. Chapter 4,

page 4-13 and 4-17, of the RRPEA, analyze the loss of sage brush and the effect on sage dependent species.

- e. **Page 2-22, Wildlife, Items 8 and 10, and Page 3-26, Greater Sage Grouse: The Service believes that the timing stipulation may protect the sage grouse nesting period but may not be protective of the brood rearing period. We recommend that you contact the local Wyoming Game and Fish Biologist to determine local site specific dates for leking and hatching and brood rearing period, and then modify the timing stipulation to reflect a period of more thorough protection**

The BLM normally consults with and receives input from field biologists of the Wyoming Game and Fish Department when considering exception requests and in spring monitoring of greater sage-grouse lek activity (breeding).

- f. **We also feel that a 0.25-mile NSO will not protect leking, nesting or brood rearing activity and should not be considered a mitigation measure.**

Page 2-22 of the RRPEA provides details that construction and surface occupancy cannot occur at anytime within 0.25 miles of existing leks for greater sage-grouse. In addition, construction, drilling, or other activities that could disrupt nesting greater sage-grouse are prohibited from March 1 through June 30 for the protection of nesting areas for this species. The sage grouse is a BLM sensitive species, listed as such on April 9, 2001. Because of this status, no actions that might jeopardize the future existence or viability of this species may occur.

The Great Divide Resource Management Plan (RMP), in Appendix I, lists sage grouse in several areas of the Wildlife Mitigation Guidelines including 2b and 2c. Item 2c provides for the prohibition of surface activities or use within important habitat areas for the purpose of protecting sage grouse breeding grounds and or habitat where timing stipulations are not appropriate. The purpose of the Guidelines are 1) to reserve for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and 2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. The Guidelines in the RMP are not specific as to the distance an action must be moved to mitigate impacts of a proposal on sage grouse. Literature reviews indicate that spacing requirements from a lek generally run in the 0.25 to 2 mile range. The minimum distance for spacing is 0.25 miles.

- g. **Finally, we believe that a two-mile buffer may protect only a portion of sage grouse nests, especially in an area where disturbance is occurring. Lyon et al. (2003) found that disturbance can increase the distance from leks to nest sites and the majority of hens from disturbed leks nested greater than two miles from the lek, while the majority of hens from undisturbed leks nested within two miles of the lek.**

See f. above.

- h. **The Service strongly recommends protection measures as described by Connelly et al. (2000), which based protection measures on whether or not specific sage grouse populations are migratory and whether or not sage brush habitat is uniformly distributed. Connelly et al. (2000), recommends protective measures of between 2 and 11 miles from a lek based on the habitat availability and year-round activities of populations of sage grouse. We strongly recommend that the project**

be altered so that these leks and their adjacent nesting and brood-rearing habitat are maintained in a contiguous nature.

See f. above.

- i. **The Service also encourages the Bureau to use its authority and not grant exceptions to any final protection measures for sage grouse despite mitigation plans for anticipated impacts.**

Exceptions are approved only after a thorough, site-specific analysis, including interdisciplinary and interagency consultation leads to the conclusion by the BLM that an unacceptable impact to greater sage-grouse will not occur from the request.

- j. **As you know, the Forest Service, the Bureau, and the Service signed a Memorandum of Understanding (MOU) in 2001 with the Western Association of Fish and Wildlife Agencies to conserve the greater sage-grouse and its habitat. This MOU outlined the participation of Federal and State wildlife agencies, including the Wyoming Game and Fish Department, in greater sage-grouse conservation, and these commitments should be considered in project planning in sage-grouse habitat.**

These commitments were considered in planning for this and other projects.

- k. **Additionally, unless site-specific information is available, greater sage-grouse habitat should be managed following the guidelines by Connelly et al. 2000.**

Please refer to our response to comment f. above.

- l. **Page 2-23, Special Status Species, Item #2, and Page 3-23, Threatened and Endangered Species: The EA indicates that the western prairie fringed orchid (*Platanthera praeclara*) should be considered within the project area. This species does not occur in Wyoming.**

The RRPEA has been changed to comply with the comment, see Appendix A, ERRATA.

- m. **Ute ladies "tresses" (*Spiranthes diluvialis*) and blowout penstemon (*Penstemon haydenii*) are listed plant species that may potentially occur in the project area. The Service recommends that all suitable habitat for Ute ladies tresses and/or blowout penstemon be avoided or surveyed prior to disturbance and during the appropriate time of year to determine whether it is present or absent within the project area.**

Thank you for your recommendation

- n. **Page 3-18, Surface Water: The EA states that the project area is located within the Great Divide Basin which is a closed basin, yet the pipeline corridor is within the Upper North Platte Basin. If pipeline construction including hydrostatic testing and/or dust abatement will result in depletions to the Platte River, we recommend you contact our office.**

If the "Companies" determine that a gas delivery pipeline is necessary, a right-of-way application will be presented to the BLM. It is standard operating procedure, as part of the review for threatened and endangered species, to require a depletion analysis for

projects in the North Platte River System. If the analysis reveals a possible effect on T&E species, we would consult further with USFWS.

- o. **Page 3-30, Threatened and Endangered Species, and Page 4-21, Black-Footed Ferret:** The EA indicates that potential black-footed ferret (*Mustela nigripes*) habitat occurs within the project area. A black-footed ferret survey was conducted on four white-tailed prairie dog (*Cynomys leucurus*) towns in July of 2001 for which no ferrets or their sign were found. The Service currently recommends black-footed ferret surveys be completed by qualified surveyors to assist Federal agencies in making determinations regarding the potential for agency actions to affect black-footed ferrets. The surveys are valid for one year, unless the survey was conducted over the entire complex, which would serve to clear the complex. However, the Service is currently reviewing information about the current and historic status of prairie dog towns throughout Wyoming, as well as the history of black-footed ferret surveys, to determine whether the survey guidelines should continue to be applied across the entire state. It is likely that this review will result in "block-clearance" of certain parts of the state to focus effort and resources on those areas where the likelihood of discovering wild ferrets is greatest. By "block-clearance," we mean that an area is not likely to be inhabited by black-footed ferrets and surveys for ferrets will no longer be recommended. We anticipate completing the initial list of areas included in the "block-clearance" by February 1, 2004. The Service will continue to collect and review information on the remaining areas to determine if they should be added to the block-clearance. Therefore, prior to conducting surveys, you should coordinate with the Service to determine which specific areas have been block-cleared.

Thank you for your comment, the BLM is currently using the information you referenced.

- p. **Page 3-31, Mountain Plover:** The EA states that nearly 700 acres of mountain plover (*Charadrius montanus*) habitat occurs within the project area, although several surveys did not observe them. As you know, the Service has withdrawn the proposal to list the mountain plover and we will no longer be reviewing project impacts to this species under the Act. We do, however, encourage the Bureau and their applicants to continue providing protection for this species as it remains protected under the Migratory Bird Treaty Act (16 U.S.C. 703) and as a sensitive species under Bureau policy (Bureau Manual 6840.06 E. Sensitive Species). Measures to protect the mountain plover from further decline may include: 1) avoidance of suitable habitat during the plover nesting season (April 10 through July 10), 2) prohibition of ground disturbing activities in prairie dog towns, and 3) prohibition of any permanent above-ground structures within plover habitat that may provide perches for avian predators or deter plovers from using preferred habitat.

Thank you for your recommendation. What you suggest is part of the BLM authorization process. Site-Specific Conditions of Approval for Mountain Plover are found on page 22 of the Master Surface Use Program, Item 13, describes mitigating measures to be taken with implementation of specific well approval: Mitigation of impacts is required during April 10 through July 10 for the protection of potential mountain plover habitat. The Mitigation will be added to the Conditions of Approval for each well.

- q. **Page 4-9, Paragraph 4, and Appendix D, page 7, Overview and Predicted Results of Water Conditioning:** The EA states that produced water would be conditioned in a proprietary water conditioning process and then discharged to ephemeral tributaries of Hadsell Draw within the Great Divide Basin. Wastewater from the

conditioning facility would be disposed of in one of the two injection wells. Page 7 of the Water Management Plan describes the plan to condition produced water for use in livestock and wildlife watering and irrigation. Please refer to Attachment A for information regarding potential adverse effects from the proposed water conditioning process for your use in project planning in order to minimize effects to migratory birds.

Thank you for your comment and concern. Your reference as to the use of conditioned water in irrigation is incorrect. The Companies propose to condition the produced water to irrigation-quality water; no mention of using the water for irrigation is mentioned.

- r. **Page 4-11, paragraph 3, and Page 4-14, paragraph 2, and Page 4-18, paragraph 2:** The EA states that the conditioned water will meet the criteria for irrigation and may be beneficial to riparian areas for grazing. The EA (page 4-14) also states that certain sagebrush species are intolerant to root inundation and may have reduced vigor when surface areas are flooded, possibly resulting in permanent loss of shrub species in ephemeral draws. The EA (page 4-18) states that disturbance of shrub communities would result in long-term loss of these habitats. Ephemeral draws where sage brush species dominate may be important to sage grouse and other sagebrush obligate species for cover and forage. Connelly et al. (2000) recommends that areas of Wyoming big sage brush be maintained for their importance to sage grouse. The Service recommends that water discharge into ephemeral draws be limited so that existing vegetation communities are not permanently degraded.

Thank you for your comments your recommendation will be taken into consideration.

- s. **Page 4-19, Upland Game Birds, and Page 4-20, paragraph 2:** The EA states that 4 active leks are within 2 miles of the project area and the market pipeline will pass through 4.4 miles of sage grouse nesting habitat within a 2-mile buffer of 2 active leks. However, the EA further states that the sage grouse population will not be affected, provided that mitigation measures are adhered to. The Service is concerned that habitat fragmentation, long-term loss of nesting and brood rearing habitat, noise disturbance, and abandonment of nearby leks will occur despite mitigation efforts. These effects may be adverse to the local population of sage grouse. We recommend that the Bureau consider alternative actions, such as directional drilling, to reduce the number of well pads and road infrastructures.

Chapter Four adequately assess the possible impacts to sage grouse in section 4.8.1.3., thank you for your comment and concern.

Directional drilling is not considered to be economically feasible due to a number of factors. The primary factor is the shallow depth of the formation does not allow sufficient room to directionally place the wellbore in the established reserve recovery pattern without excessively high angles and the attendant costs. The coal zones are thin and scattered over a long interval so that an "S" type directional well (directional and then vertical through the productive zone) is absolutely not feasible due the shallow depth and the attendant extremely high angles required to place the well in the established reserve recovery pattern. An angled directional well (directional through the pay zone) is also not feasible because again the shallow depths would not allow sufficient distance to place the angled hole within the reserve recovery pattern. In this case, the reserve recovery would be marginal for the upper zones due to interference by the closely spaced high angle wellbores and could also be marginal for the lower zones due to lower drawdown of the

widely spaced high angle wellbores. In addition, cementing casing in an angled directional well can be very difficult and this would be extremely detrimental to the required isolation of the coal reservoirs. Horizontal drilling is not feasible because the zones are thin and would not economically support single horizontal completions.

- t. **Page 4-33, Cumulative Impacts:** The EA states that cumulative impacts are incremental impacts from the Red Rim Pod added to past, present, and reasonably foreseeable future actions. The EA further states that the only major development proposed are the pods under the Interim Drilling Policy which includes 200 wells. Full field development is not discussed in the EA and, because of this, the Service is concerned that full field development of the Atlantic Rim Project may have cumulative effects not analyzed in each EA. We received a scoping notice for the Atlantic Rim Project EIS on June 18, 2001, which stated that 3,880 coal bed methane wells may be drilled within the Atlantic Rim Project Area. More importantly, the scoping notice stated that the Bureau had determined that the full field development could potentially result in significant impacts and that an EIS would be necessary. The Service encourages the Bureau to expedite the analysis of full field development of the Atlantic Rim Coal Bed Natural Gas Project and submit an EIS rather than a segmented analysis via individual EAs in order to adequately address the cumulative impacts of each pod.

The Red Rim Pod, along with other pods associated with the Atlantic Rim project, is intended to provide exploratory information in support of development of the Atlantic Rim Environmental Impact Statement. The Atlantic Rim Pods have been proposed in order to develop information on the impacts of various actions that are envisioned occurring and to obtain baseline information on geologic and biologic conditions. There is no library where this information may be "checked out," it must be obtained by exploration in the field. In addition, the productivity of the coal formations targeted in producing natural gas is a critical piece of information. Experience has shown that there are a certain minimum number of wells necessary to successfully obtain such information. The Red Rim Pod is proposed for just such reasons. All the elements of a coalbed methane operation must be in place (production wells, plumbing, disposal wells, roads, gas lines and compressor stations) in order to adequately develop this information. The Atlantic Rim EIS, concurrently in the process of development with the Atlantic Rim Pods, will provide the broad level of analysis you have requested, including cumulative effects within and around the Atlantic Rim area. An example of the utility of this process is the recent revision of the proposed action from 3,880 wells to 2,000 wells, based on the results obtained from exploratory drilling.

- u. **Page 4-38. Wildlife:** The EA states that reasonably foreseeable future actions under the Interim Drilling Policy are expected to be minimal, as most species would become accustomed to routine operation and maintenance and that the capacity of the area to support wildlife will remain essentially unchanged. It also states that no cumulative effects on listed species or species of concern will occur during development of the pods under the Interim Drilling Policy. However, the EA also states that other reasonably foreseeable future actions would have a minimal effect. The Service again encourages the Bureau to analyze the effects of full field development of the Atlantic Rim Coal Bed Natural Gas Project under one document rather than through individual EAs that tier to an Interim Drilling Policy. Analysis of full field development prior to implementation of portions of the Atlantic Rim Coal Bed Natural Gas Project will ensure an adequate cumulative effects analysis pursuant to 40 CFR §1508. 7.

Please refer to our response to comment t. above.

6. The National Wildlife Federation

a. The environmental assessment for the Red Rim Pod Coalbed Methane Project violates the National Environmental Policy Act because it relies on the BLM's Interim Drilling Policy

1) The IDP should have been subject to NEPA under BLM's rules.

The Council on Environmental Quality (CEQ) regulations found at 40 CFR 1506.1 discuss the requirements that must be met to allow limited activities during the preparation of an EIS. The IDP was prepared to guide exploratory oil and gas activities and to notify the operators what requirements would be necessary to keep activities at a reasonable level during the preparation of the EIS, while allowing the gathering of data necessary for the completion of the environmental analysis. The IDP is neither a decision nor an action. No action will be authorized until a NEPA document and a Finding of No Significant Impact have been completed. The IDP is a policy to guide activity while collecting data to conduct an environmental analysis.

The IDP describes the "conditions and criteria" that will determine what and where exploration activities may be considered. Those exploration activities constitute the action and are subject to NEPA analysis. The IDP itself states, "Prior to initiating interim drilling, and environmental assessment, including a detailed Water Management Plan, will be prepared and approved for each individual pod."

The policy falls under BLM Manual H-1790, Appendix 3, Categorical Exclusions, Part 1.10, which states, "Policies, directives, regulations and guidelines of an administrative, financial, legal, technical, or procedural nature; or the environmental effects of which are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will be subject later to the NEPA process, either collectively or case-by-case." The IDP meets the policy, guidelines, technical, and procedural categorical exclusion criteria.

IDPs have been generated for several exploratory drilling projects within the Rawlins Field Office and other BLM offices in Wyoming. For this reason alone, the Atlantic Rim IDP does not set precedence.

The Great Divide RMP specifically describes, under the section discussing "Management Actions" relating to oil and gas development, "Surface-disturbing activities will be restricted and intensively managed to maintain important resource values in ACECs, the Baggs Elk Crucial Winter Range, and in overlapping crucial winter ranges for the various big game species." The conditions and criteria described in the IDP reflect protective measures described in the RMP that are designed to protect sensitive resources considered by the Interdisciplinary Team as likely to occur in the Atlantic Rim Natural Gas Project Area.

Regulations found at 40 CFR 1506.1 directly state that interim activities, within the limits described, are allowed during preparation of a project EIS. While the IDP document allows the BLM to better manage interim activities to meet CEQ requirements, clearly interim activities could proceed without an IDP.

- 2) **“...the IDP was exempt from categorical exclusion, and at least an EA should have been prepared for the IDP.”**

The IDP is not precedent-setting, in that it is not a decision which would limit the scope or extent of a proposed action. It is a document which provides guidance to the operators for development of a proposed action which should not result in a significant impact. A proposed action which would not conform to the guidance in the IDP could still be considered by the RFO. However, the RFO will likely develop an alternative consistent with the IDP guidance, analyze each alternative in the EA, and make a decision based upon that analysis of effects and NOT based upon compliance with the IDP. For this reason, the IDP is not precedent-setting and is not exempt from categorical exclusion.

- b. **“The IDP makes numerous decisions which determine the location and extent of the environmental impacts of CBM drilling in the ARAP [Atlantic Rim Project Area]”**

The IDP establishes conditions and criteria to keep all activity at an insignificant and reasonable level during completion of the EIS. The basis for the criteria described in the IDP document are decisions, management objectives and actions, and mitigation described for oil and gas operations and other surface-disturbing activities in the Great Divide RMP, oil and gas rules and regulations, and standard operating procedures. There are limitations on exploration drilling and location of activities described in the IDP, but no decisions are made, as it is not meant to be a decision document. The limitations are based on allowing exploration without having an adverse environmental impact or limiting the choice of reasonable alternatives while allowing the gathering of data necessary for the completion of the EIS. The operators are allowed to propose activities under the guidelines given, but can choose how many wells to drill, where to place facilities, locations, roads, and propose alternate methods of water disposal, as long as the activities fall within the conditions and criteria of the IDP. The operators can not exceed the number of wells described in the IDP but are not obligated to drill all 200 wells, nor a total of 24 wells in each pod. No proposal will be approved until an EA has been completed and then reviewed by the public. The BLM will review the EA and the public comments and will then make a decision as to whether the project as described will result in no significant environmental impacts.

- 1) **The IDP sets a maximum of 200 CBM wells “for research and exploratory purposes, during the interim period. How would the impacts have been different if the maximum number of wells were different? Were alternatives to a 200 well maximum even considered?**

Yes, other levels of drilling were considered. The first request by the operators was to consider 400 exploratory wells. After the BLM required the operators to propose an exploratory plan located outside of areas of known sensitive wildlife resources, the number of exploratory wells was revised to 228. Based on sound reservoir management principals, BLM determined that 200 wells was an appropriate level of research and exploration to allow during the preparation of the EIS. This was used to develop the proposed action for the Red rim Pod EA.

- 2) **The IDP allows wells “in the nine pods the operators have proposed,” IDP, Appendix A to RRPEA at A-2, paragraph 1. Did BLM explore other pod areas or fewer pod locations? Would the impacts have been different had there been fewer or different pod locations?**

Again, the level of exploratory activity was based on sound reservoir management principles. The intent of the IDP was to keep exploratory drilling outside of sensitive resources. Placement of the proposed exploratory drilling in different locations may have resulted in greater impacts to sensitive resources.

- 3) **The IDP sets “a maximum of only 24 CBM wells within any pod....” How would the environmental impacts have been different if a lower maximum number of wells in each pod had been used?”**

The maximum number of wells per pod was derived based on past experience within the Dixon Field and Drunkards Wash Unit (near Price, Utah). The best comparison to the geologic conditions known to exist in this area is the Dixon Field CBM development of the early 1990s, just south of Atlantic Rim along the Wyoming/Colorado border. The companies believe the Drunkards Wash Unit near Price, Utah, is also a good productive analogy to the situation present within the Atlantic Rim CBM Project Area. The data from these two fields indicate that somewhere between 11 and 30 wells might be needed in a pod to adequately determine its economic viability. The BLM believes the 24-well target would allow the operators to obtain an indication of economic viability in a reasonable period of time. Each pod must be evaluated with an environmental analysis. If, through this analysis, 24 wells were believed to cause significant impacts to the environment or prejudice decisions to be made a result of the Atlantic Rim Natural Gas Project EIS, a lower number of wells would be considered.

- 4) **“The IDP specifies that “required injection and monitoring wells will not count toward the well limit.” Drilling and using injection and monitoring wells have environmental impacts; how would the overall assessment of impacts vary if injection and monitoring wells were counted toward the maximum number of wells in a pod?”**

Only three monitoring wells will be required, and each pod will likely have two re-injection wells (some outside of the Colorado River Basin may have none). There is generally less than one acre of initial disturbance for each of these wells and a life-of-project disturbance of 0.005 acres for each well. This would result in an initial disturbance from all injection and monitoring wells of 23 acres (23 wells x 1 acre) and LOP of 0.115 acres (23 wells x 0.005). Disturbance from the one to three injection wells proposed for the Red rim Pod Project is described in the EA on page 2-8 and in Table 2-2. Even a slight increase in the number of injection or monitoring wells would only result in a minimal increase in disturbance; however, please note that all monitoring and injection wells will be subject to a NEPA analysis.

- 5) **“The IDP specifies that “a ¼-mile buffer is required between surface-disturbing activities and the Overland Trail.” How would the impacts vary if this buffer were enlarged?”**

The ½-mile corridor is a protection corridor that allows BLM to evaluate effects. It is not a guideline that prohibits surface disturbance within ¼-mile of either side of the trail. Disturbance which is visible and located within ¼-mile of the Trail is considered to be an adverse effect and therefore consultation with the Advisory Council on Historic Preservation is required according to the Wyoming State Protocol and 36 CFR 800.4 (d). In addition, the RFO will conduct and has conducted analyses for any eligible historic trail located within two miles of a proposed action to determine if any adverse effects would occur as defined under 36 CFR 800.4(b). Because each project is unique, impacts vary from case to case and would have to be evaluated on that basis.

The Cherokee Trail is located, according to our records, approximately 12 miles south of the Red Rim Pod and is, therefore, well outside the Area of Potential Effect for this project. The Overland Trail and the Rawlins-Baggs Stage Road are outside but adjacent to the project area. The two-mile area of effect was analyzed and SHPO has been consulted as required."

- 6) **"The IDP specifies that prior to completion of the ARPA EIS, and with possible exceptions for Double Eagle's existing and proposed wells, water produced from coalbed methane wells located in the Colorado River Basin will be disposed of by re-injection. What are the environmental benefits and costs of this broad disposal decision?"**

The requirement for re-injection for operations located within the Colorado River Basin is intended to allow CBM development without violating the requirements of the Clean Water Act. The environmental benefit would be to meet the objectives set forth by the Colorado River Basin Salinity Forum and the Management Objectives for Soil, Water, and Air described on page 39 of the Great Divide RMP. Re-injection will prevent salt loading in watersheds within the Colorado River Basin. Furthermore, the impacts to groundwater were projected to be minimal because the State of Wyoming requires all formations accepting re-injected water contain water of lower quality than the water placed in the formation as described in the EA.

- 7) **"The IDP provides that, when a pod contains a prairie dog town, a black-footed ferret survey "will clear the pod for a one-year period." Operators also have the option to complete the survey for the whole EIS area, "which would clear the area for the life of the project. Would there be greater protection if the clearance period were shorter than a year? If the survey is done for the entire EIS area, why should the clearance be for the ten-to-twenty year life of the project, given that ferrets could move into a prairie dog town after the initial survey, but long before disturbance of their new habitat? Why does the IDP not consider the importance of prairie dog towns to other declining species such as the swift fox, mountain plover, and ferruginous hawk, all of which may be impacted by the proposed CBM development on the Atlantic Rim?"**

The IDP states (IDP, Appendix A, Page A-3, #11) that drilling will be allowed in each individual pod containing prairie dog towns upon the completion of black-footed ferrets survey using methods approved by the Fish and Wildlife Service. These surveys will clear the pod for one year per service protocol requirements (Black-Footed Ferret Survey Guidelines for Compliance with the Endangered Species Act, U.S. Fish and Wildlife Service, Denver, Colorado, and Albuquerque, New Mexico, April 1989).

This requirement meets the USFWS guidance necessary to protect black-footed ferrets on public lands. As part of the project review and analysis, field reviews are conducted to ensure that, wherever possible, the proposed disturbance will avoid prairie dog towns. The current proposed action successfully avoids prairie dog colonies. This being the case, no adverse effect to prairie dogs or other associated obligate species is anticipated from the proposed action.

- 8) **“The IDP precludes drilling or disturbance “in areas where any two or more big game crucial winter ranges overlap.” What would be the environmental benefits of precluding disturbance where there was only a single species crucial winter range, particularly since, under any timing stipulations that may apply, disturbance done in crucial winter range prior to the closure date need not be reclaimed before the next closure period?”**

On page 30 of the Great Divide RMP, Management Actions, the RMP specifically states that surface-disturbing activities will be restricted and intensively managed to maintain important resource values in overlapping crucial winter ranges for various big game species.

The Rawlins Field Office has determined that the timing stipulations adequately protect big game crucial winter range for a single species. If it was determined, through further analysis, that additional mitigation was necessary to protect single species crucial winter range, the BLM would afford this protection.

There are less than 11 acres of crucial winter/year long pronghorn range in the Red Rim Pod (page 3-25 RRPEA). Effects on big game are expected to be minimal, as the project area represents less than one-tenth of a percent of the winter or year-long range for any species (HWA 2003) Figure 3-1). No long-term loss of habitat is expected once construction is complete and big game species are expected to return to the area (page 4-19 RRPEA).

- 9) **“The IDP provides that the BLM must approve a drilling schedule “to ensure activities are limited within proven big game migration corridors at critical use times during the year.” Why did the BLM indicate that it would only limit activities, rather than preclude all activities in the corridors at critical use times?”**

The requirement was placed in the IDP to avoid simultaneous drilling in two adjacent pods if proven big game migration corridors were present.

- 10) **“The IDP requires the installation of fish passage structures “for roads which cross drainages with fisheries concerns as identified by BLM.” Have these drainages already been identified? What criteria were used? Was the public allowed to evaluate these designations? Was any environmental analysis done on which drainages were designated? Given that “pipelines, power lines, and fiber optic lines will be buried and, where possible, will follow the road rights-of-way,” what is to prevent trenching for these lines from destroying fisheries that the passage structures were intended to save?”**

The four BLM sensitive fish species do not occur in the great Divide Basin or the Platte River system; therefore, no BLM sensitive fish would occur in or downstream of the project area. No roads within the Red Rim Pod Project area are subject to this requirement.

- 11) **“The IDP’s definition of Sensitive Resource Areas, which requires protection with stipulations or by mitigation, does not include areas important for recreational use, areas of important scenic value, areas of solitude and lack of noise, or areas of fragile soils. What would be the environmental benefits of including these other resource values as sensitive areas which must be protected by stipulations or mitigation?”**

The project area is managed for multiple uses. There are no areas set aside for special management of sensitive soils within the project area. All of the Atlantic Rim exploratory pods are located in Visual Resource Management Class III. None of the pod areas lie within any area identified in the RMP as a special recreation area or contained in designated recreation sites. The concerns you identify are addressed through project-wide mitigation measures and procedures described in the Red rim Pod EA on pages 2-13 through 2-27.

c. “The Red Rim Pod EA relies heavily on the Interim Drilling Policy.”

The IDP is very important in providing guidance to the operators regarding exploration activities. The IDP identifies protective measures to meet 40 CFR 1506.1, but other authorities, rules, regulations, mitigation in the RMP, in addition to the IDP, played a role in determining where and what exploration activities would occur within the Red Rim Pod Project .

Most of your discussion in this section appears to emphasize that the IDP restricts alternative formulation. According to the H-1790-1, BLM NEPA Handbook, Chapter IV, Preparing Environmental Assessments, page IV-3, alternatives to the proposed action must be considered and assessed whenever there are unresolved conflicts involving alternative uses of available resources. Public controversy or concern about a proposal does not necessarily mean that alternatives must be analyzed. The Handbook raises the question on whether there are reasonable alternatives for satisfying the need for the proposed action and will these alternatives have meaningful differences in environmental effects.

The Red Rim Pod Project consists of the drilling of 16 CBM wells and associated facilities. As stated in response b.3) above, BLM believes the 16-well target is consistent with other CBNG fields with similar geologic conditions, and would allow the operators to obtain an indication of economic viability in a reasonable period of time. Because the impacts from implementing this project were minimal and no unresolved conflicts were apparent, no other reasonable alternatives were considered.

d. “The Red rim Pod EA violates the Federal Land Policy Management Act.”

1) “The Great Divide RMP does not contemplate CBM development or its associated environmental consequences.”

The RMP states that the entire planning area is open to oil and gas leasing and does not make a distinction as to whether oil and gas development is conventional or otherwise. The minerals management program policy and goals described in the RMP are to provide the opportunity for leasing, exploration, and development of oil and gas while protecting other resource values. CBM-related activity is not unanticipated just because the RMP does not use the specific words “coalbed methane.” “Methane” and “natural gas” are used interchangeably, regardless of the source. No specific formation, bed, or seam was identified in the RMP as being suitable or unsuitable for oil and gas development. Natural gas production operations are very similar and CBM development is no exception. Development and production sequence described in the Oil and Gas Appendix in the Draft Environmental Impact Statement for the Medicine Bow-Divide Resource Management Plan (later the Great Divide RMP), describes typical development operations, even to the point that water may need to be removed during natural gas production. Therefore, even if coalbed methane has not been specifically mentioned, the activity is clearly consistent

with the terms, conditions, and decisions of the approved plan [43 CFR 1610.0-5(b)].

In the Interior Board of Land Appeals' (IBLA) order denying the request for stay by the Wyoming Outdoor Council (IBLA 2003-358), the IBLA stated that "We have scrutinized the Great Divide RMP/EIS and conclude that its analysis of oil and gas impacts adequately analyzed impacts associated with potential CBM exploration and development in the RFO area, which is located outside the Powder River Basin. Although the BLM did not flag CBM as a discrete topic in the draft and final EISs, those documents did address the issues typically associated with natural gas production in general and CBM production in particular [e.g., water volume, quality, discharge/disposal, contamination of surface and groundwater, sodium adsorption ratio (SAR), and the uses to which produced water can be put]."

2) "The RRPEA exceeds the reasonably foreseeable development scenario for the Great Divide Resource Area."

The GDRMP recognizes development of oil and gas resources on two levels: 1) number of wells drilled, and 2) amount of surface disturbance from the development of these resources. The DEIS analysis assumed that 40 acres of disturbance would occur from the development of each gas well brought into production (including ancillary facilities). Efficiencies within the oil and gas industry have resulted in the amount of surface disturbance necessary to develop oil and gas operations. The Continental Divide DEIS re-examined the amount of long-term disturbance associated with natural gas development and estimated it to be approximately nine acres (CDIWII DEIS at 1-8). It is estimated that the surface disturbance associated with developing the Red Rim Pod would be much less per well, with an estimated short-term disturbance of 3.23 acres/well (12 wells requiring 38.82 acres) and long-term disturbance of 0.63 acres/well.

As elaborated upon in the Desolation Flats DEIS (Page 1-13, released April 2003) there are over 7,000 acres of long-term disturbance acreage available for future projects. Therefore, the reasonably foreseeable development estimate of the future oil and gas wells and associated long-term disturbance within the RFO would not be exceeded by this project.

3) "The RRPEA departs from the Great Divide RMP in other respects that violate FLPMA." The GDRMP states that "surface disturbance from oil and gas exploration and development would be restricted in certain areas with sage grouse leks and high priority habitat," yet Figure 3-1 of the RRPEA shows pronghorn crucial winter range, potential mountain plover habitat, sage-grouse lek, and several lek buffers within the Red Rim Pod Project Area. This is not consistent with the GDRMP and is, therefore, in violation of FLPMA.

The "Companies" have committed to the requirements found in the GDRMP/FEIS. See Page 2-22 of the RRPEA, 2.1.10., Wildlife, Project-Wide Mitigation Measures and Procedures.

Page 3-25 of the RRPEA, 3.8.1.1.1. Pronghorn Antelope, states, "Crucial winter/year-long range exists in the extreme northwestern corner of section 16 and 20 (less than 11 acres)." No project facilities are planned in these areas.

Figure 3-1, the “Wildlife and Sensitive areas Map” shows the spatial representations of pronghorn crucial winter range in relation to the project.

- e. **The Red Rim Pod Environmental Assessment violates NEPA by failing to consider other reasonable alternatives, failing to adequately analyze reasonably foreseeable future actions, and failing to adequately disclose impacts of the proposed action**

- 1) **The RRPEA violates NEPA by failing to consider other reasonable alternatives.**

The CEQ states in its Forty Questions and Answers about NEPA Regulations (1981) that there are two distinct interpretations of the No Action Alternative. The first is that there is no change from the existing situation. This interpretation generally applies to planning decisions. The second interpretation is that the proposed activity (i.e., as described under the Proposed Action) would not take place. This does not mean, however, that activity associated with oil and gas development would never be allowed to occur in this area. Under the Mineral Leasing Act of 1920, as amended, the BLM cannot deny the lessee the right to develop somewhere within the leasehold. This right is supported by national mineral leasing policies and the regulations, by which they are enforced, which recognize the statutory rights of lease holders to develop federal mineral resources to meet continuing national needs and economic demands as long as undue environmental degradation is not incurred.

However, this does not mean the “No Action Alternative” cannot be chosen by the decision-maker. If the components of the project described under the Proposed Action were such that the decision was made that environmental impacts were significant, either an environmental impact statement could be prepared, the project components could be changed, or additional mitigation proposed that would allow a determination of no significant impacts, or the decision-maker could choose the No Action Alternative and the project would not go forward as described.

- 2) **The RRPEA violates NEPA by failing to consider directional drilling.**

This alternative is not considered to be economically feasible due to a number of factors. The primary factor is the shallow depth of the formation does not allow sufficient room to directionally place the wellbore in the established reserve recovery pattern without excessively high angles and the attendant costs. The coal zones are thin and scattered over a long interval so that an “S” type directional well (directional and then vertical through the productive zone) is absolutely not feasible due the shallow depth and the attendant extremely high angles required to place the well in the established reserve recovery pattern. An angled directional well (directional through the pay zone) is also not feasible because again the shallow depths would not allow sufficient distance to place the angled hole within the reserve recovery pattern. In this case the reserve recovery would be marginal for the upper zones due to interference by the closely spaced high angle wellbores and could also be marginal for the lower zones due to lower drawdown of the widely spaced high angle wellbores. In addition, cementing casing in an angled directional well can be very difficult and this would be extremely detrimental to the required isolation of the coal reservoirs. Horizontal drilling is not feasible because the zones are thin and would not economically support single horizontal completions.

- 3) **The RRPEA violates NEPA because its analysis of cumulative impacts fails to thoroughly consider reasonably foreseeable future actions.**

At this point, the proposal to develop a 3,880 well field is not reasonably foreseeable. In general, two main factors determine whether other actions should be included as part of the cumulative impact analysis—location and timing of actions. The cumulative impact analysis must take into account the past, present, and future actions that overlap in time and location with the proposed action. At this time, there is no data available to confirm that CBM resources can be developed and produced in the entire ARPA. Implementation of the 200-well interim drilling program was designed to identify where areas of CBM drilling may be economic and the number of wells at which the program becomes economic. The only reasonably foreseeable activity at this time, other than conventional uses of oil and gas drilling and ranching, is the 200-well proposal.

- 4) **The RRPEA fails to acknowledge limits on BLM's ability to impose post-leasing mitigation measures**

All applicant-committed mitigation measures will be enforced, as will the Conditions of Approval. The mitigation measures, though proposed by the operator, are not negotiable in compliance. The operator shall follow those Project-Wide Mitigation Measures and Procedures as well as the Conditions of Approval, with requisite enforcement by the RFO.

As described in other portions of this Appendix, routine maintenance and production operations will not be subject to these restrictions, as these activities are similar to other casual uses which occur on public lands.

Applicant-committed mitigation measures are, in fact, mitigation measures which the operator has volunteered, and is compelled, to comply with. The BLM will enforce such mitigation measures in the same manner as those prescribed by the BLM in authorizing the APDs. The applicant-committed mitigation measures are considered part of the Master Surface Use Plan which is part of the APD for each well

- 5) **Other Specific Problems in the RRPEA**

- a) **The RRPEA acknowledges that many adverse effects on soils and vegetation, including reduced soil permeability, disruption of plant osmotic capabilities, and ion toxicity, are likely to occur as a result of discharge of conditioned water into the Hadsell Draw drainage, RRPEA at 4-6.**

The last paragraph on page 4-6 (right after the referenced statements) explains how these issues are dealt with.

- b) **In addition, "impairment to surface water quality" is also listed as a potential impact of the project, RRPEA at 4-10. Exactly what will be the chemical composition of the "conditioned" water? Is this water not supposed to meet or exceed standards for irrigation? See RRPEA at 4-11, 4-14.**

The potential impacts addressed on page 4-10 would be from the affects of the additional water in the system, not from the quality and chemical composition of the water.

- c) If produced water discharged into Hadsell Draw has a negative affect on soils and vegetation in the riparian zone or elsewhere and would “require many years to recover” (RRPEA at 4-7), then the impacts of the Proposed Action are unacceptably high and the BLM should *at least* mandate Alternative 2, which requires almost all of the produced water to be re-injected, and more optimally require *all* produced water to be re-injected.

Thank you for you comment

- d) In addition, there is no discussion in the RRPEA of the impacts of increased cattle aggregation in riparian habitats where permanent water flows are newly available due to conditioned water outfalls. The RRPEA has not taken the needed “hard look” at this reasonably foreseeable outcome of the Proposed Action and, therefore, fails to satisfy NEPA requirements to take a hard look at direct and cumulative impacts of the project on riparian plants and wildlife.

These impacts are adequately covered on page 4-15 and 4-16 of Chapter 4 of the RRPEA. Appendix D the Water Management Plan-Red Rim Proposed Action also covers these concerns, including monitoring and mitigation.

- e) The RRPEA describes direct impacts to the grazing capacity of the Sixteen Mile Allotment as representing a loss of less than 1% of its capacity for livestock, RRPEA at 4-16. However, the RRPEA must also note the loss of grazing if the full 3,880 wells are drilled under the Atlantic Rim CBM Project, which is not only reasonably foreseeable but also currently under review in preparation for a DEIS to be released in two months. This failure to analyze cumulative impacts violates NEPA.

At this point, the proposal to develop a 3,880 well field is not reasonably foreseeable. In general, two main factors determine whether other actions should be included as part of the cumulative impact analysis—location and timing of actions. The cumulative impact analysis must take into account the past, present, and future actions that overlap in time and location with the proposed action. At this time, there is no data available to confirm that CBM resources can be developed and produced in the entire ARPA. Implementation of the 200-well interim drilling program was designed to identify where areas of CBM drilling may be economic and the number of wells at which the program becomes economic. The only reasonably foreseeable activity at this time, other than conventional uses of oil and gas drilling and ranching, is the 200-well proposal.

- f) The RRPEA notes that due to confining beds above and below the coal layer, hydraulic connection between the target coals and surrounding aquifers is “limited,” RRPEA at 4-9. However, the confining layers are “impervious and semi-pervious,” indicating that some cross-contamination may occur, and hydraulic connections are “limited” but not absent. While leakage between aquifers is asserted by BLM to be “minimal,” the fact that “slight leakage” is expected to occur indicates a strong possibility of contamination of neighboring aquifers by migrating methane gas

and/or toxic wastewater once head pressure is removed from the target aquifer, see RRPEA at 4-9.

The slight leakage noted here was from the aquifers to the coal beds not vise versa and, therefore, there is no possibility of contamination of neighboring aquifers (not considering the fact that the leakage is hypothetical and highly improbable). The RRPEA has been changed to reflect this (see ERRATA).

- g) Samples from wells in the project area indicate that produced waters will exceed standards for domestic use or irrigation for ammonia and cyanide, as well as Total Dissolved Solids, sodium adsorption ratio (SAR), and residual sodium carbonate, RRPEA at 3-18, Table 3-7. In addition, levels of phenol, iron, petroleum hydrocarbons, and manganese exceed domestic use criteria, RRPEA at 3-18, Table 3-7. Unfortunately, units of measure for these factors have not been provided in surface water quality data, and ambient surface water levels for some pollutants are not presented at all in the EA. See RRPEA at 3-19 to 3-20. In addition, quantities of minerals in “conditioned” waters released at outfalls as a result of project activities have also not been presented in the RRPEA. Thus, direct comparison of produced waters (which will be re-injected, but which may migrate upward and be discharged into surface waters via springs and hyporheic flows), cannot be made using the data presented in the EA.**

The explanation of Table 3-7, on page 3-17, of the RRPEA states, “The composite results of samples from three gas wells analyzed indicate water that is generally suitable for livestock use, but is unsuitable for domestic supply or irrigation without treatment or dilution.” As stated, on page seven of the Water Management Plan, “In general, the quality of the produced water that the Companies envision under the project meets WDEQ guidelines for livestock and wildlife watering.” The Companies propose to condition the produced water to irrigation-quality water, which, when surface discharged, may enhance natural infiltration.” Chapter 2 of the RRPEA does not propose any use of water for domestic supply or irrigation.

All drainages in the Red Rim project area are ephemeral. Most water flow would be during a thunderstorm or after snowmelt. These flows would have a high TDS value and would be definitely too high to allow for domestic use.

There is no possibility of upward migration of the injected water due to a thick section of confining shale between the injection zone and the coal reservoirs, in addition to the known fact that the intervening coal reservoirs are already known to be isolated from the surface waters (see previous question).

- f) There were no mountain plovers located in the project area during surveys in 2001-2003 (although one mountain plover was sighted two miles east of the project area in 2001). Nonetheless, several tracts of potential plover habitat were identified in the project area, and at least four wells would be built on these potential nesting habitats. See RRPEA at 3-32, Figure 3-1. Well construction should**

not be permitted within ¼ mile of this potential mountain plover habitat, in order to maintain its viability as nesting habitat and prevent raptors from perching within sight distance of these lands. The mountain plover was proposed for listing as threatened under the Endangered Species Act [64 C.F.R. 7587-7601 (February 16, 1999)] and a lawsuit was recently filed seeking to compel the U.S. Fish and Wildlife Service to list the species. There is no assessment of the cumulative impacts of roads on mountain plovers (should they be present) and roads are identified as a risk factor for them in the Proposed Rule to list the mountain plover as threatened under the Endangered Species Act [64 C.F.R. 7587, 7596-7597 (February 16, 1999)] as the plovers both nest and forage in the bare ground along road verges.

On September 8, 2003, the USFWS withdrew its proposal to list the mountain plover under the ESA. It is still considered a BLM Wyoming State Sensitive Species and is afforded the same protection stipulations as when it was a candidate to be listed under the ESA. One reason that the USFWS cited as justification to not list the plover was the effectiveness of the mitigation measures applied, as required in the Red Rim Pod Proposed Action.

Potential habitat was noted during BLM onsite investigations and COAs will be placed on the APDs if habitat is found. The BLM has established survey routes through potential mountain plover habitat in the Atlantic Rim project area and has surveyed for the birds on the routes during the past three years, but no birds have yet been observed within the breeding season. Should exploration drilling prove economic reserves exist in the Atlantic Rim area, a wildlife monitoring plan will be prepared as part of the mitigation proposed in the EIS outlining the requirements for wildlife monitoring, including mountain plover

- g) Consider that well-site facilities for productive wells are likely to be in place for 20 years or more, RRPEA at 4-13. These facilities will provide perch sites for raptors and corvids and, coupled with a nearby prairie dog colony and sage grouse lek sites, are likely to increase use of the area by raptors and corvids. The RRPEA fails to account for the potential impacts of creating new raptor perches near the crucial habitat of sensitive prey species.**

Production facilities may serve as perches for raptors which may increase predation on sage grouse and prairie dogs within the Red Rim Pod. Facilities for CBM are relatively low (~4' in height) as compared to conventional oil and gas structures. The Red Rim Pod contains many sandstone rock features in the area that currently serve as potential perches and nest sites in the area. Raptors in this area do not seem to be perch-limited in regards to predation upon small mammals. The BLM predicts that the increase of CBM facilities would have an insignificant impact with regards to increasing predation on sage grouse and prairie dog within the Red Rim Pod. No well facilities will be placed within ¼-mile of an active lek, and facilities will be placed outside of prairie dog towns; this will minimize impacts to these species. If a raptor perch is discovered during the course of operations, the situation would be reviewed, and appropriate mitigation measures applied, as necessary, using the best-available science. Mitigation measures applied will be

based upon the specific conditions and circumstances for each location and resource.

- h) On the subject of the Wyoming big sagebrush community, BLM states that “short-term or long-term loss in acreage described above would not alter the overall abundance and quality of the vegetation community,” RRPEA at 4-13. This is an unsupported and unsupportable statement, as habitat fragmentation and direct disturbance will most certainly have negative impacts on the quality of this habitat type within the project area. Fragmentation of sagebrush steppe habitats is known to have deleterious effects on sagebrush obligate species such as sage sparrow, Brewer’s sparrow, and sage thrasher. All three of these species are on the BLM Sensitive Species List and occur within the project area, RRPEA at 3-31. Oil and gas development has specifically been shown to negatively impact these species in Wyoming.**

Page 4-38 of the EA states, “Some wildlife species may be temporarily displaced by construction at well sites, access roads, and pipeline routes, but should return once construction is complete. Extensive suitable habitats for many species exist on adjacent lands and would support individual animals that may be temporarily displaced during RFFAs. Cumulative long-term effects on wildlife are also expected to be minimal, as most species would become accustomed to routine operation and maintenance. Only a very small proportion of the amount of available wildlife habitats within the Atlantic Rim EIS study area would be affected. As a result, the capacity of the area to support various wildlife populations should remain essentially unchanged from current conditions.” The CIA area varies with species, as indicated in the analyses. Disturbance of wildlife habitat that results from RFFAs, including the interim drilling program, would reduce the availability and effectiveness of habitat for a variety of common mammals, birds, and their predators. Initial phases of surface disturbance would result in some direct mortality to small mammals, would displace songbirds, and cause a slight increase in mortality from increased use of vehicles. However, populations of small mammals and songbirds would quickly rebound to pre-disturbance levels after reclamation is complete because of the relatively high production potential of these species and the relatively small amount of habitat disturbed (0.006 percent of the Atlantic Rim EIS study area). Therefore, no long-term impacts to these populations are expected. Because of the small amount of disturbance associated with the project (141.5 acres), their inherent mobility, and the availability of suitable habitats on undisturbed land, the effects on these species should be minimal.

- i) There is no discussion of the cumulative impacts of roads within and presumably connecting the nine exploratory pods to such species. The BLM has asserted that “populations of small mammals and songbirds would quickly rebound to pre-disturbance levels,” RRPEA at 4-18. There is no scientific basis for these claims with regard to sagebrush obligate songbirds, which have been shown to be sensitive not only to construction activities but also to the ongoing disturbance of roads and activity that remains during the production phase of oil and gas operations. Moreover,**

if the pods are connected, then there will be a greater likelihood that after the CBM project ends (after roughly 20 years), ORV enthusiasts, hunters, and other recreational users will use the roads. Although several sagebrush obligates on the BLM Sensitive Species List are noted for the project area, the potential impact on sagebrush obligate species of public use after the project has not been evaluated. See RRPEA at 4-18, 4-21.

Transportation planning will be an integral part of the development of the Atlantic Rim project and also a means of looking at access into pod areas. Currently all of the interim drilling pods, except the Doty Mountain Pod, can be reached by using existing legal access, so the proliferation of several through roads as a result of these CBM exploration projects is not anticipated

- j) The Red Rim project area is in an area of extremely high lek density for sage grouse. According to the BLM's own analysis, "the area provides excellent year-round range," RRPEA at 3-27. Oil and gas development has been shown to reduce the nesting rates of sage grouse and its impacts include direct habitat loss from new construction, increased human activity and pumping noise causing displacement, increased legal and illegal harvest, direct mortality associated with reserve pits, and lowered water tables resulting in herbaceous vegetation loss. Experts agree that oil and gas facilities should be sited farther than 3.2 km (2 miles) from sage grouse leks to protect nesting that occurs on the lands surrounding the lek. All eight of the proposed wells are scheduled to be constructed within two miles of a sage grouse lek, RRPEA at Figure 3-1. But the mitigation measures proposed for the project prohibit construction and surface occupancy only within ¼ mile of lek sites, and exceptions to this meager standard will be made available by the BLM, RRPEA at 2-22. While there is a seasonal prohibition on construction activities throughout the project area from March 1 to June 30 to reduce disturbance to sage grouse, these measures fail to address the disturbance to nesting sage grouse from routine production-related traffic and activities that will continue throughout the life of the project along roads and well sites within the project area, as well as along the sole access route to the project area, RRPEA at 2-21. As discussed above, the applicable leases prevent enforcement of this mitigation measure during the twenty-year production phase of development.

The EA describes the mitigation measures that will be followed to protect sage grouse populations (see EA, Page 2-22) and analyzes potential impacts (see EA, Pages 4-19, 4-38).

- k) The BLM states that exceptions could be granted to this restriction if the operator and BLM agree on an "acceptable plan" for mitigating the impacts, RRPEA at 2-23. There is no "acceptable plan" for siting an oil and gas well or road within ¼-mile of a sage grouse lek; such a plan would contradict the best available science on sage grouse and the recommendations of all credible experts in the field. Exceptions may also be granted for seasonal stipulations on construction activities if they occur in "unsuitable habitat," RRPEA at 2-22. And yet the BLM fails to identify criteria by which

lands within two miles of a sage grouse lek would be classified as unsuitable for nesting. Until the BLM provides hard criteria for determining what constitutes suitable and unsuitable sage grouse nesting habitat, the agency is in no position to meet the criteria for the granting of a waiver. Because the BLM is incapable of meeting the criteria for granting a waiver to seasonal stipulations, the mitigation measures should state explicitly that waivers will not be granted under any circumstances. Furthermore, for the above reasons the Red Rim facilities should be relocated so that no roads or well sites fall within two miles of a sage grouse lek site.

You opinion is noted

- I) The project area has been identified as a likely migration route for pronghorn moving through the southern part of the project area toward crucial winter/yearlong range that borders the project to the northwest, RRPEA at 3-25. Although the antelope herd that uses this area has increased in recent years, it remains 24% below the WGFD management objective, *Id.* In western Wyoming, it has been found that oilfield developments caused game animals to abandon substantial tracts of winter range. Researchers have noted that densities of pronghorn are lowest in areas of severe oil and gas development. The BLM admits that successful results of the Red Rim Pod would lead to a greatly expanded drilling effort throughout the area, RRPEA at 4-2. This shortcoming must be addressed prior to the issuance of a Decision on this project.

Cumulative impacts for the Red Rim Pod are disclosed in Section 4.16, "Cumulative Impacts," in the Red Rim EA, page 4-33. Cumulative impacts to wildlife are found on pages 4-38 and 4-39 in the Section entitled 4.16.1.7, "Wildlife and Fisheries."

The Red Rim Pod, along with other pods associated with the Atlantic Rim project, is intended to provide exploratory information in support of development of the Atlantic Rim Environmental Impact Statement. The Atlantic Rim Pods have been proposed in order to develop information on the impacts of various actions that are envisioned occurring and to obtain baseline information on geologic and biologic conditions. There is no library where this information may be "checked out," it must be obtained by exploration in the field. In addition, the productivity of the coal formations targeted in producing natural gas is a critical piece of information. Experience has shown that there are a certain minimum number of wells necessary to successfully obtain such information. The Red Rim Pod is proposed for just such reasons. All the elements of a coal bed methane operation must be in place (production wells, plumbing, disposal wells, roads, gas lines and compressor stations) in order to adequately develop this information. The Atlantic Rim EIS, concurrently in the process of development with the Atlantic Rim Pods, will provide the broad level of analysis you've requested, including cumulative effects within and around the Atlantic Rim area. An example of the utility of this process is the recent revision of the proposed action from 3,880 wells to 2,000 wells, based on the results obtained from exploratory drilling.

- m) **The RRPEA states, “Many common species of birds, mammals, amphibians, and reptiles may be found within the project area. The proposed development is not expected to significantly affect the common species found in the project area; therefore, they are not discussed further in this analysis,” RRPEA at 3-24. What scientific or technical analysis forms the basis for this “expectation?”**

Developments such as described in the RRPEA are common within the area, including other Atlantic Rim Pods, such as the Sun dog Pod, Blue Sky Pod, and Wild Cow Pod. Based on monitoring, these developments are known to not significantly affect these species. If effects had been noted, or of the issue had been raised during scoping, the BLM would have analyzed such an assertion in greater detail. Also see the answer to the previous comment.

- n) **The RRPEA does not adequately address the cumulative impacts of weed invasion into areas from which plant cover is removed, though it does admit that the project area is vulnerable to infestations of invasive/noxious weeds.**

Causing a weed invasion is not part of the proposed action as describe in Chapter 2. As part of the Project-Wide Mitigation Measures and Procedures, the “Companies” will implement, if necessary, a weed control and eradication program. As the companies plan to control weeds, there should be no cumulative impacts from weed invasion.

- o) **It is a well-established fact that roads enhance exotic species invasions. Trail and road verges are notorious for their susceptibility to weed invasion and establishment. There is also a high potential for weed seeds/propagules to be introduced by construction equipment and by gravel used for roadbeds. And yet the RRPEA includes no measures requiring construction equipment to be washed to remove weed seeds prior to entering federal lands. See RRPEA at 2-21.**

Thank you for your observation

- p) **There is no provision for monitoring riparian areas below discharge points in order to spot noxious weed invasions before they become firmly entrenched. Weed control appears to be a discretionary activity that might or might not be undertaken by the project proponent, with no standardized methods for applying and/or dealing with herbicides which might also be detrimental to wildlife such as sage grouse. See RRPEA at 2-21. There is also no indication of who will do monitoring and how often it will occur.**

As Part of the Project-Wide Mitigation Measures and Procedures, the “Companies” will implement, if necessary, a weed control and eradication program, page 2-21. The Water Management Plan, Appendix D, requires the establishment of a monitoring and mitigation program that addresses these concerns.

- q) **The plan for revegetation (RRPEA/Appendix B at 20) does not include replacement of lost sagebrush, nor does the RRPEA address the effect of loss of sagebrush on sage dependent species such as sage sparrow or Brewer's sparrow, both of which are on the BLM Sensitive Species Policy and List, BLM IM WY 2001-040.**

The linear nature of the disturbance from road and pipeline disturbance and the small size of the disturbance from pad construction allow sage brush to come back naturally once the grasses and forbs that were seeded have created the needed microclimate. Chapter 4, page 4-13 and 4-17, of the RRPEA, analyze the loss of sage brush and the effect on sage dependent species.

- r) **In the chapter discussing long-term effects on wildlife, the EA concludes that they will be minimal over the long term, RRPEA at 4-17 and 4-18. The EA assumes all species will habituate to disturbance and that this will overcome the effects of displacement. But the EA provides no support for this contention except for pronghorn. Moreover, the research cited (RRPEA at 4-19) states that pronghorn habituation to traffic can occur provided the traffic moves in a predictable manner. However, because the project area is open to public use, traffic is likely to be unpredictable both as to type and timing.**

The CD/WII DEIS summarized several studies that have occurred over the past 25 years which examined impacts from oil and gas activity on big game animals. It was concluded that of the three big game species, it appeared that pronghorn antelope exhibited the least amount of displacement due to oil and gas and mining development activities. Studies conducted in Wyoming, New Mexico, and Texas (Gusey 1986; Guenzel 1987; Easterly et al., 1991) found that pronghorn returned to these habitats once the source of disturbance left the areas. Segrestrom (1982) and Deblinger (1988) determined that a large population of pronghorn populations inhabiting surface mine sites in Wyoming were relatively unaffected by mining activities and habituated to the presence of personnel and vehicles.

Mule deer are generally less sensitive to human disturbance than elk and, in some cases, may be less sensitive than pronghorn (Easterly et al., 1991). In the Rattlesnake Hills of Wyoming, mule deer did not avoid oil fields and may have habituated to human activity associated with petroleum extraction. Other studies conducted found that wintering mule deer in Montana were minimally affected by low levels of oil and gas development (Irby et al., 1988), while a study of development on Crooks Mountain in Wyoming did not observe a mule deer within 0.5 miles from a well construction site.

Elk tend to react less to traffic along roads than to concentrated areas of noise and activity such as well sites. The CD/WII DEIS reviewed studies that examined the displacement of elk due to oil and gas development activities and concluded that elk within that project area could be displaced an average of 1.5 miles from the well locations during construction, drilling, completion, and workover operations.

Because activities associated with the construction of this project are anticipated to be short in duration and would be restricted during critical times of the year, and with the implementation of measures described in Chapter 2 of the EA and COAs in Appendix D of the Decision Record, impacts to big game as a result of implementing the Red Rim Pod project are anticipated to be minimal.

- s) **The RRPEA states, the direct disturbance of wildlife habitat in project area likely would reduce the availability and effectiveness of habitat for a variety of common small mammals, birds, and their predators. The initial phases of surface disturbance and increased noise that are likely would result in some direct mortality to small mammals and would displace songbirds from construction sites. In addition, a slight increase in mortality from increased vehicle use of roads in the project area would be expected. Quantification of these losses is not possible; however, the loss is likely to be low over the short term. Increased noise from compressor engines and other production activities would displace some animals and would affect the production potential of some species during the operations phase of the project. Based on the relatively high production potential of these species and the relatively small amount of habitat disturbed, however, populations of small mammals and songbirds would quickly rebound to pre-disturbance levels. This rebound would be expected after reclamation of pipelines, unused portions of roads, well pads, and wells that are no longer productive have been reclaimed. No long-term impacts to these populations would be expected (RRPEA at 4-18). However, the combined effects of habitat conversion, displacement due to the effect of roads and traffic, and habitat fragmentation resulting from construction of infrastructure for CBM extraction is very likely to have long-term cumulative impacts by affecting abundance, distribution, community interactions and community composition (species richness). Given the likely 20-year life of the project, these impacts do, in fact, constitute long-term impacts and the BLM's assertion that no long-term impacts would be expected, therefore, directly contradicts its earlier admissions that displacement and reduced production potential of wildlife would be occur during the operational life of the project.**

Roads fragment habitats, increasing the edge effect, which can provide heterogeneity to the habitat in terms of food and cover resources. However, many native, non-game species require contiguous, undisturbed habitat. In addition, rare endemic species may suffer from creation of unnaturally high amounts of edge. Habitat is the single most important factor in the persistence of populations and species; its degradation either through loss of quality or quantity or both has been shown to negatively impact species persistence and increase vulnerability to stochastic events. In addition, the RRPEA fails to analyze the reasonably foreseeable development of 3,880 coalbed methane wells currently under analysis as the Atlantic Rim project; the habitat effects of this massive scale of development would scarcely leave any open habitat for wildlife to shift to during any construction phase and would have substantial long-term impacts on the abundance and effectiveness of habitat for all native species of wildlife. By failing

to consider the 3,880 CBM wells of the Atlantic Rim project, which are reasonably foreseeable to the extent that the BLM is currently considering their approval, the RRPEA fails to take a hard look at cumulative effects to wildlife habitat.

Thank you for your opinion. See q) see above.

7. **USDA, Forest Service** - These answers include input from Susan J. Caplan, Air Quality Specialist, Wyoming State Office

- a. **Section 1.4, page 1-6 - Why was air quality not included as an issue in this section? It is a large issue in the overriding Atlantic Rim EIS, which is currently being completed.**

Please refer to page 1-9, other Resources and Uses," item 3. The effects of natural gas develop on air quality in southwest Wyoming have been studied extensively in recent years, including the Continental Divide/Wamsutter II air quality study that modeled the impacts of 3,000 wells and the Pinedale Anticline air quality study that modeled the impacts of 700 wells. These studies found the 0.5 deciview threshold at nearby wilderness areas (including the Bridger and Popo Agie wilderness areas) to be within an acceptable range. Furthermore, of the 3,000 wells included in the Continental Divide Model, only 2,130 (71%) were approved. The wells in the Red Rim Project can be included in the remaining 870 wells.

The small number of exploratory wells and facilities included in the project would generate only a small amount of air pollutants. Some temporary effects on air quality would likely occur in the immediate vicinity of the project, caused by particulate matter and exhausts from vehicles and equipment. Air Quality is adequately addressed in Chapter 3, Section 3.3.2, and Chapter 4, Section 4.3 of the RRPEA. Analysis beyond this level is beyond the scope of the project.

- b. **Section 3.3, page 3-5 - If in fact this paragraph is correct, stating that ET exceeds precipitation by six inches a year, it is highly unlikely that any vegetation could survive in this area. Are these numbers correct and/or being used correctly?**

As detailed in the same section, these characteristics combine to produce a predominately dry climate where evaporation exceeds precipitation. The concern is noted.

- c. **Section 3.3.2, page 3-6 - There are also State and National standards for particulate matter smaller than 2.5 microns (PM2.5). These should be included in the discussion.**

The requested information has been added to Table 3-2 (see Errata). Also see answer to a. above.

- d. **Section 3.3.2, page 3-71 - Why was different data for background concentrations used in this analysis vs. the Draft Rawlins RMP AQ document? The table should also show the PM2.5 standards and the 8 hour Ozone standard.**

The Draft Rawlins RMP AQ document was not available at the time the RRPEA was written. See answer to a. above. Chapter 3 has been changed by updating Table 3-2 in the Errata.

- e. **Section 3.3.2, page 3-7 - The document should also mention the Savage Run wilderness, which the State of Wyoming has designated as a class I area.**

Please see Table 3-3. Savage Run has a federal classification of II but the State of Wyoming manages it as a Class I air quality area.

- f. **Section 3.3.2, page 3-8 - What is the distance from the project area to the Bridger and Popo Agie wilderness areas? A quick measure at a scale of 1:500,000 that the Popo Agie wilderness areas are less than 100 miles from the project area. Because the Bridger and Popo Agie wilderness areas are being addressed in the Atlantic Rim EIS, they should also be addressed in this document.**

It is 103.6 air miles (90 nautical miles) from Rawlins, Wyoming, to Lander, Wyoming. The distance from the Red Rim Pod to the southeast end of the Popo Agie wilderness areas is approximately the same.

The effects of natural gas development on air quality in southwest Wyoming have been studied extensively in recent years, including the Continental Divide/Wamsutter II air quality study that modeled the impacts of 3,000 wells, and the Pinedale Anticline air quality study that modeled the impacts of 700 wells. These studies found potential visibility impacts greater than the 0.5 deciview threshold at nearby wilderness areas (including the Bridger and Popo Agie wilderness areas) to be within an acceptable range. Furthermore, of the 3,000 wells included in the Continental Divide Model, only 2,130 (71%) were approved. The number of well in the Red Rim Project are well within the remaining 870 wells.

- g. **Section 3.3.2, page 3-8 - FYI, there are four NADP sites near Pinedale and the Wind River Mountains: Gypsum Creek, Pinedale, South Pass, and Sinks Canyon. Also, the FS has collected specific background lake chemistry in several lakes, and has established long term monitoring programs for 6 lakes. Was any of this data used in this analysis?**

See response to f. above.

- h. **Section 4.3.1, page 4-3 - A lot of the particulate matter would be related to road traffic and clearing of well pads.**

Some dust would be produced during construction. Dust abatement would comply with all applicable WOGCC requirements, as stated in section 2.1.4, page 2-7, of the RRPEA.

- i. **Section 4.3.1, page 4-31 - Again, how far is it to the Popo Agie wilderness? Should other wilderness areas being considered in the Atlantic Rim EIS be included in your analysis? What is the basis for the comment that, "No noticeable deterioration in visibility would occur at class I or sensitive Class II wilderness areas"? This may be true for project impacts alone, but cumulative impacts are not addressed in the document.**

See answer for f. above. Section 4.16.1.2 has been changed by removing the last paragraph.

- j. **Section 4.3.1, page 4-3 - The second sentence indicates estimates of impacts to air quality were made; where are these estimates? About all I see is an assumption that, because the Continental Divide EIS analyzed for 3,000 wells and because they authorized a smaller number and the additional proposed project wells are below the 3,000 number, you assume there will be no impact.**

See answer for a and f. above

- k. **Section 4.3.1, page 4-3, Last paragraph - The second sentence makes the assumption of compressor engines having emissions of 2 g/hp-hr. This is not consistent with the discussion in chapter 2, page 2-11, where the TPY of NOx from compressors was calculated based on 1.5 g/hp-hr.**

Please read this sentence again. This sentence merely states that similar existing facility emissions have been shown to be less than 2.0 g/hp-hr.

- l. **Section 4.3.1, page 4-3 - I see an assumption that, because the Continental Divide EIS analyzed for 3,000 wells and because they authorized a smaller number and the additional proposed wells are below the 3,000 number, you assume there will be no impact. The Continental Divide EIS was released in April 1999, almost five years ago. For this assumption to be valid you must also assume there have been no changes or large scale projects analyzed or approved which would affect air quality. Because the Continental Divide EIS did not include the Pinedale Anticline or Powder River Basin projects (or any other RFDs or RFFAs for that matter), this assumption is not valid.**

The analyses called for in this comment are beyond the scope of the project. Table 4-1, Summary of far-field air quality impacts from the Desolation Flats EIS, has been added to Section 4.3, Air Quality (see Errata).

- m. **Section 5.2, page 5-1 - The FS received the scoping notice for the Atlantic Rim project dated June 14, 2001, and we provided comments in a letter dated July 23, 2001. The FS is not shown in this section as providing comments and none of the comments were incorporated in the draft EA. Is there a reason that the FS comments were not listed or incorporated? The FS also provided similar comments to the initial scoping of the Atlantic Rim CBM project on March 30, 2000, for 96 wells.**

Not including the Forest Service in this section is an oversight. The Forest Service comments will be included in the very next environmental analysis written.

- n. **It would be helpful to have a map of this project area in relation to other ongoing activities in Wyoming. This map should show gas fields, approved number of wells, actual developed wells, and all RFD and RFFA project locations with as much information as is available on the scope or scale of the project. Such a map would be a logical lead in to discuss cumulative impacts from other approved and RFD sources.**

The comment will be taken under consideration. Generally a map such as proposed is beyond the scope of a project this size.

- o. This document is lacking any analysis of air quality impacts directly related to the project or cumulative impacts. This document needs to provide the decision maker with information on developments and activities approved because the Continental Divide EIS modeled impacts on air quality relative to Class I and Class II wilderness areas. You also need to identify and take into consideration any potential impacts from RFDs and RFFAs.**

This comment is noted; however, the Continental Divide/Wamsutter II air quality study (see f. above) adequately covers the concerns express here. To conduct a study such as asserted in the comment is far beyond the scope of this project. Also refer to comment l. above.

- p. Section 5.3, page 5-4 - Is there a reason there was no input from the State BLM Air Quality staff in this document? Review at that level would facilitate an adequate discussion of air quality analysis.**

Susan J. Caplan did contribute to the Red Rim Pod Environmental Analysis and the Decision Record for the Red Rim Pod Environmental Analysis.

- q. In general, I believe this document falls short of the NEPA requirements to adequately disclose potential impacts from this project related to air quality and fails to disclose a cumulative assessment of these potential impacts.**

This comment has been noted.